REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

The present invention is directed to a hydraulic brake apparatus comprising a tandem brake master cylinder, a separation valve, a pressure control valve unit, and a stroke simulator mechanism. The tandem brake master cylinder comprises a cylinder body, a rod piston movable in response to a brake-operating member and a floating piston movable in response to the rod piston. The separation valve is provided in the hydraulic brake circuit and is adapted to establish and shut off communication between the tandem brake master cylinder and the brake wheel cylinder. The pressure control valve unit controls fluid pressure to be supplied from the external fluid-pressure supply source to the brake wheel cylinder while the separation valve is in a shutoff condition. The stroke simulator mechanism allows the idle stroke of the rod piston and the idle stroke of the floating piston, while the separation valve is in the shutoff condition, to ensure the stroke of the brake-operating member in accordance with the input load to the brake-operating member.

Particularly unique features of the invention will be described below with reference to the disclosed preferred embodiment:

> (i) a first orifice (15a) is provided in a first passage (12c) which establishes, during the idle stroke of the rod piston (12), communication between the first pressure chamber (R1) and the first reservoir pressure chamber (AR1), and a second orifice (17a) is provided in a second passage (13c) which establishes, during the idle stroke of the floating piston (13), communication between the second pressure chamber (R2) and the second reservoir pressure chamber (AR2);

(ii) a stroke simulator mechanism includes a simulator piston (42) which is caused to move by fluid pressure in the second pressure chamber (R2); and

(iii) the idle stroke of the floating piston (13) starts (at point B) and ends (at point C) during the idle stroke of the rod piston (12), and the simulator piston (42) starts its stroke (at point D) after completion (at point C) of the idle stroke of the floating piston (13) and before or upon completion (point E) of the idle stroke of the rod piston (12) (See Fig. 2 regarding the points A-E).

In order to place the point D between the point C and the point E, the simulator piston (42) needs to be moved by fluid pressure in the second pressure chamber (R2), because no increase in pressure in the first pressure chamber (R1) is generated before the point E (that is, during the idle stroke of the rod piston (12)) and increase in pressure in the second pressure chamber (R2) can be generated after the point C (that is, after the idle stroke of the floating piston (13)).

Due to feature (i), during an abrupt operation of the brake-operating member (52) (namely, during an abrupt idle stroke of the rod piston (12) and the floating piston (13)), throttle effects exhibited by the fist orifice (15a) and the second orifice (17a) can work to enhance the rigid feel of the brake-operating member (52), whereby the operation feeling at the time of abrupt operation of the brake-operating member (52) can be improved.

Due to feature (ii) and (iii), while the rod piston (12) (accordingly, the brake operating member (52)) is performing a stroke, the floating piston (13) starts its stroke and then the simulator piston (42) starts its stroke. Thus, shocks associated with both start of movement of the floating piston (13) and start of movement of the

simulator piston (42) can be reduced, thereby improving an operator's feeling of operating the brake-operating member (52).

Claim 3 has been amended by reciting, *inter alia:*

> "the stroke simulator mechanism comprising a simulator piston which is caused to move by fluid pressure in the second pressure chamber" and
>
> "the idle stroke of the floating piston starts and ends during the idle stroke of the rod piston and the simulartor piston starts its stroke after completion of the idle stroke of the floating piston and before or upon completion of the idle stroke of the rod piston"

Claim 3 stands rejected as being obvious over *Schunk* in view of *Meynier* and *Drott et al.* However, those patents do not disclose or teach features ii and iii, above. As regards feature ii, *Schunk* discloses a simulator mechanism 60 or 64 or 68 (i.e., a piston communicating with the first pressure chamber 38). However, neither *Schunk* nor the two secondary references discloses or suggests the combination of features ii and iii including a simulator piston which is caused to move by fluid pressure in the second pressure chamber, as recited in claim 3.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: August 9, 2005

By: _____
Alan E. Kopecki
Registration No. 25,813

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620